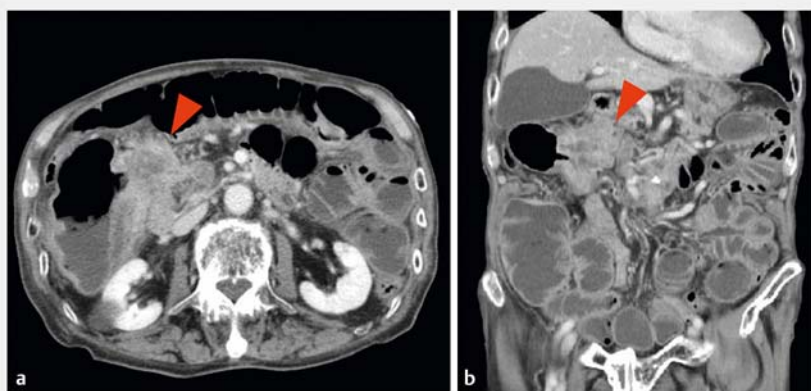
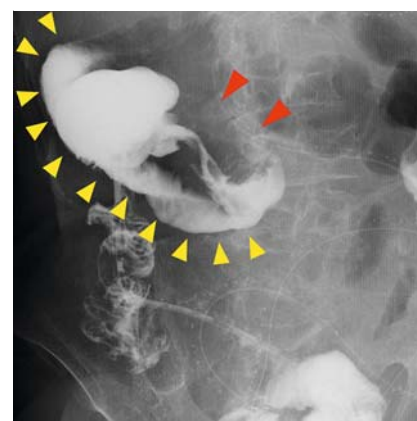


Self-expandable metal stent placement for malignant obstruction of the proximal colon using single-balloon enteroscopy



► **Fig. 1** Contrast-enhanced computed tomography images showing the dilated small bowel and ascending colon, along with wall thickening of the ascending colon (red arrowheads) and tumor thrombosis in the superior mesenteric vein on: **a** axial view; **b** coronal view.



► **Fig. 2** Fluoroscopic view with contrast media showing the stenosis of the ascending colon (red arrowheads) and complicated ascending colon route on the anal side of the lesion (yellow arrowheads).



► **Video 1** Successful self-expandable metal stent placement for malignant obstruction of the proximal colon using single-balloon enteroscopy.

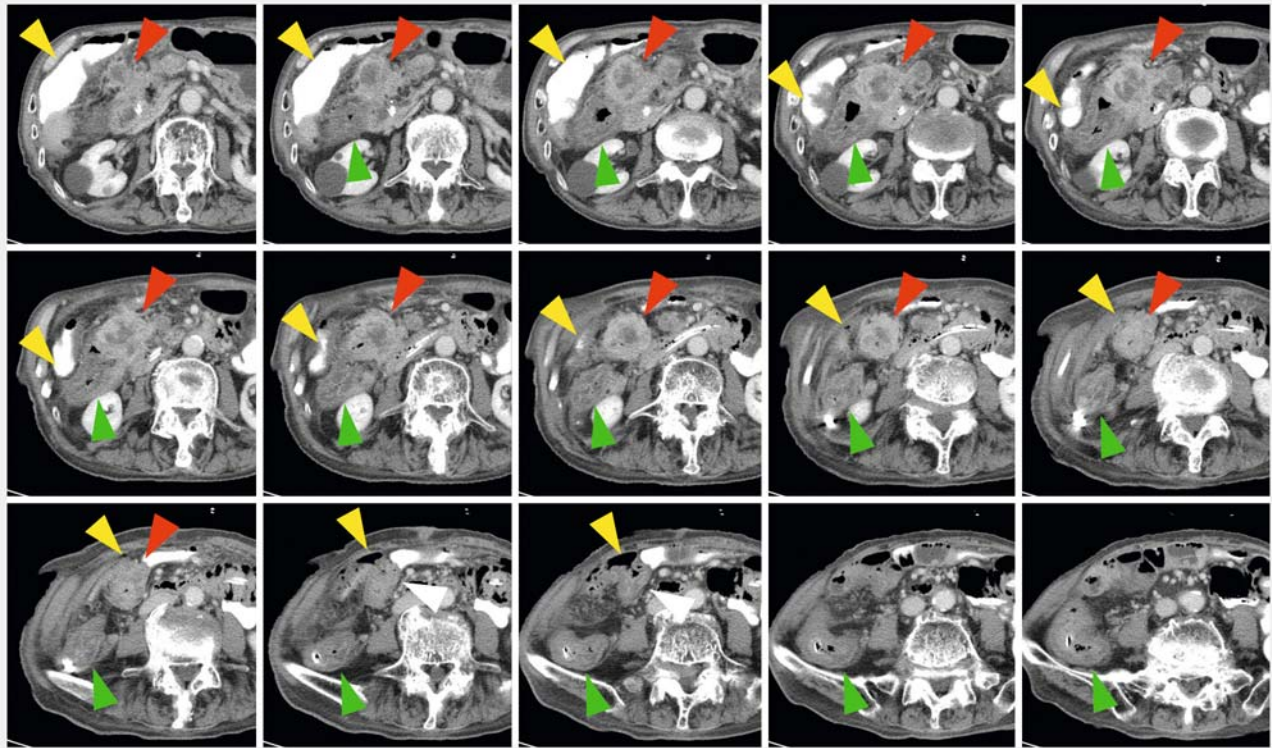


Self-expandable metal stents (SEMSs) are widely used around the world for malignant colonic and extracolonic obstruction; however, malignant obstruction in the proximal colon, and complicated and long-segment stenoses are difficult cases [1, 2]. Several articles have reported SEMS placement in the proximal colon using a balloon enteroscopy overtube and the over-the-[guide]wire technique

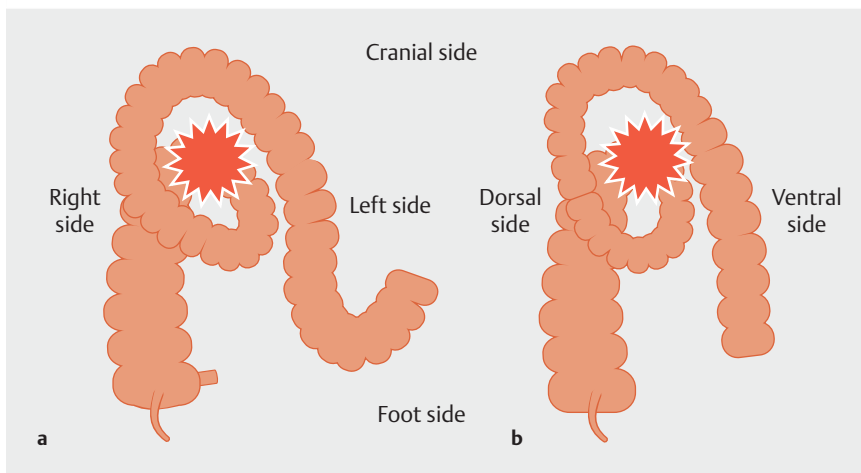
under fluoroscopic guidance, and without endoscopic guidance [3, 4]. The outer sheaths of SEMSs have become thinner, reducing from 10Fr to 9Fr, and the short-type single-balloon enteroscope with a 3.2-mm working channel is now available for SEMS placement using a combination of the through-the-scope and over-the-wire techniques.

An 88-year-old man presented with abdominal fullness and postprandial vomiting. Contrast-enhanced computed tomography (CECT) showed wall thickening in the ascending colon and dilatation from the lesion to the small bowel (► **Fig. 1**). The patient was diagnosed with cancer of the ascending colon, with tumor thrombosis in the superior mesenteric vein. SEMS placement with a standard colonoscope was attempted, but was unsuccessful. Transnasal ileus tube placement was performed for decompression of the small- and large-bowel (► **Fig. 2**). Repeat CECT showed decompression of the small- and large-bowel, along with an extremely complicated ascending colonic route (► **Fig. 3**).

The patient was unfit for surgery because of his age, frailty, and progressive disease status. Therefore, a SEMS was placed for palliation using short-type single-balloon enteroscopy (SBE; SIF-H290S; Olympus Corp., Japan) (► **Video 1**). The short-type single-balloon enteroscope reached the lesion with the use of the overtube. Although it was difficult to obtain a stable endoscopic position with a view from the front because of the extremely com-



► **Fig. 3** Contrast-enhanced computed tomography images after ileal tube placement showing wall thickening of the ascending colon (red arrowheads), decompression of the small bowel and ascending colon (green arrowheads), and the complex route of the anal side of the colon from the lesion in the ascending colon (yellow arrowheads).



► **Fig. 4** Schema of the colon showing: **a** frontal view; **b** right anterior oblique view of the complex route of the colon on the anal side of the lesion from the ventral caudal side to the right dorsal and cranial side, then dorsal to the ventral midline side at the hepatic flexure.

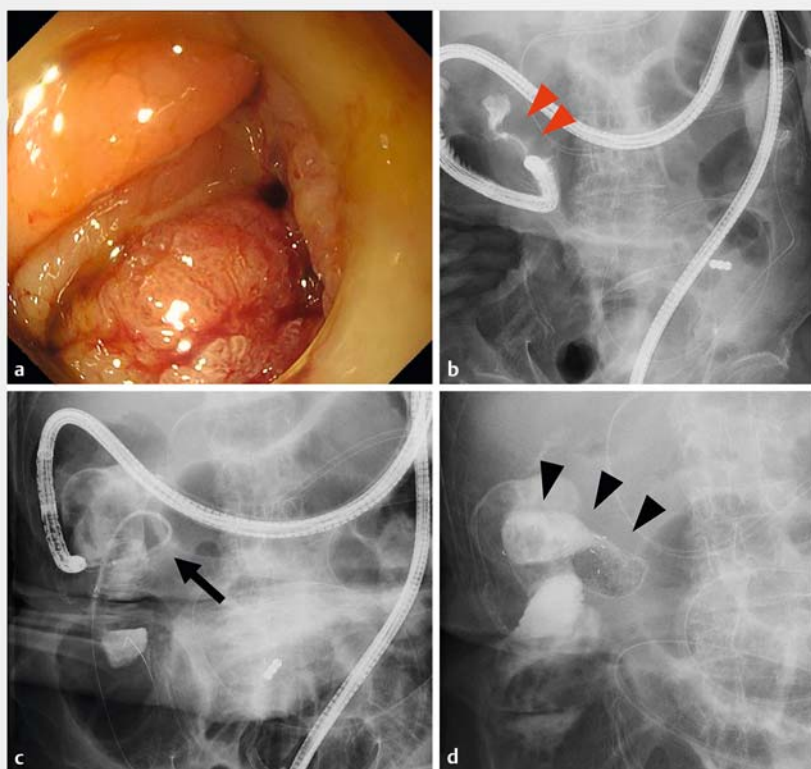
plicated colonic route (► **Fig. 4**), a guide-wire was successfully passed through the stenosis. A SEMS (Hanarostent Naturfit; Boston Scientific, USA), with a diameter of 22 mm and length of 12 cm, was placed across the 6-cm stenosis using the through-the-scope and over-the-wire techniques (► **Fig. 5**).

Colonic stent placement using short-type SBE may be a useful treatment option for malignant obstruction of the proximal colon with a complicated colonic route.

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Competing interests

The authors declare that they have no conflict of interest.



► **Fig. 5** Images during the balloon enteroscopy procedure showing: **a** an endoscopic view of the colonic ulceration that was suspected to be a colonic cancer; **b** a fluoroscopic view, with contrast media, of the enteroscope reaching the lesion and the stenosis (red arrowheads) in the ascending colon; **c** a fluoroscopic view of the loop-shaped sheath (black arrow) of the self-expandable metal stent (SEMS) straddling the stenosis caused by the lesion; **d** a fluoroscopic view after placement of the SEMS across the stenosis (black arrowheads).

Bibliography

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